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Good Afternoon

My name is Tyler Reese. Born and raised in Enfield, Connecticut, I am currently a senior at the University of Connecticut, Storrs. I will graduate this May as an Honors scholar with a Bachelor of Science in Mathematics. Speaking as a student and active researcher in the STEM disciplines, I support *Next Generation Connecticut*: a plan which, in the process of growing our state's flagship university, will encourage economic growth and job creation.

Given the ever-growing emphasis on Science, Technology, Engineering, and Mathematics, I represent arguably the least "hands-on" of the STEM disciplines. Yet, despite the abstract origins of mathematics, I embrace the vital role which mathematicians play within a growing economy. Inside of any expanding company is a team of financial mathematicians and actuaries who are asked to analyze, project, and even predict the economic future. *Next Generation Connecticut* offers the opportunity to develop a trained workforce of these professionals to support Connecticut's businesses.

That being said, I have chosen to pursue an education and career in mathematics because of its universal nature: math is influential if not indispensible in countless other fields of academia and industry. In this spirit, I've completed multiple undergraduate research projects at the University of Connecticut. I spent the summer of 2011 working within what many refer to as "biomathematics." Along with 3 other math students, we used a graph-theoretic approach to model and analyze the structure of the neural network–the brain–of a nematode worm. The goal was simple–illuminating structural properties of such a complex biological system can, in turn, aide researchers and clinicians in better-understanding its function. More recently, I have brought my mathematical faculties into the musical realm, using fractal string representations of melodic and rhythmic data to compare a series of musical selections. Serving as my Honors thesis, the overall aim is to observe if these mathematical structures can offer new way to analyze or even classify pieces of music based on their musical notation.

In light of my personal experience, the expansion of facilities, faculty, and students proposed by *Next Generation Connecticut* promises many opportunities. Today's mathematicians are much more than the old-fashioned stereotypes of chalkboards, textbooks, and elbow patches. We are a collection of critical thinking and questioning innovators–we realize our inquiries can serve to promote, support, and supplement the creativity and progress in countless other fields. We understand that in our world of rapidly advancing science and technology, mathematics is much more a *tool* than an isolated discipline. What is more, the proposed expansions will support one of the most crucial facets of my UConn experience, collaboration. When faculty and students are brought together in an environment of active exploration, new ideas and varying perspectives can ultimately lead to discovery. This

atmosphere of collaboration encourages innovation, creativity and invention–the pillars upon which Connecticut's economy was historically based, and which must be reinvigorated as a part of its growing future.

My future has now begun to take shape thanks to the many opportunities I've had at the University of Connecticut. Unsure of the road ahead four short years ago, I am now confident in my future education and career as a mathematician. I am pleased to say that thanks to my undergraduate training, I have already been accepted to several graduate schools and will begin Ph.D. work this fall. While this next step in my journey may not take place in my home state, I look forward to returning to live and work in Connecticut after finishing my education. Given the bright and innovative future promised by *Next Generation Connecticut*, I am confident that Connecticut will remain the place where I live, work and thrive–it will always be my home.

Signed,

Tyler Reese
University of Connecticut